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average more color, but extremes easily overlap and identity can not be determined from the eggs alone. Ten specimens of each measure in inches as follows:—

*D. nigripes*:  $4.75 \times 2.75$ ,  $4.31 \times 2.62$ ,  $4.06 \times 2.62$ ,  $4.25 \times 2.50$ ,  $4.06 \times 2.69$ ,  $4.19 \times 2.75$ ,  $4.75 \times 2.75$ ,  $4.12 \times 2.69$ ,  $4.31 \times 2.75$ ,  $3.87 \times 2.69$ . Average:  $4.27 \times 2.68$ .

*D. immutabilis*:  $4.00 \times 2.75$ ,  $4.37 \times 2.75$ ,  $4.31 \times 2.69$ ,  $4.25 \times 2.75$ ,  $4.31 \times 2.75$ ,  $4.43 \times 2.81$ ,  $4.50 \times 2.75$ ,  $4.25 \times 2.94$ ,  $4.25 \times 2.69$ ,  $4.31 \times 2.95$ . Average:  $4.29 \times 2.78$ .

The sizes are thus about the same.

Regarding the nesting habits, Dr. Campbell noted an interesting point of difference in the two species; both lay in slight hollows scratcht in the bare sand, but *immutabilis* usually heaps up this material in a ridge around the "nest". He says "the bird, sitting on the nest and reaching out as far as possible, picks up sand in its bill and deposits same around the edge until it is built up four or five inches. I noticed the difference in contour of nests of the two species, and as a white pair (Laysan) made a nest just beyond my door I was enabled to discover how it was done. The building up of the sides results in making the nest higher and also provides a shallow ditch all around it, which certainly makes it drier when there is rain."

Each pair of birds—and this applies to both species—rarely lays more than one egg in a season, if undisturbed; and if a second egg should be deposited the first is thrown out, leaving but one to incubate. If, as was formerly the case, the nests are systematically robbed, four eggs are usually supplied by each.

In 1906, *nigripes* arrived the first week in November, *immutabilis* following a few days later, and by the 20th of the month both species had deposited eggs. Dr. Campbell believes that the birds pair after arrival, but it would seem that some, at least, may have mated previously.

Incubation lasts about six weeks, both birds taking turns on the nest so that the egg is constantly covered. The young are fed, in the well-known manner, by regurgitation from the throat of the parent, remaining about the Islands until the following June or July, so that the entire reproductive period occupies about one-half the year.

It appears, according to my correspondents, that there are about a dozen species of birds that commonly breed on these islands, but excepting the albatrosses all or nearly all breed during our summer months, chiefly in June and July.

Since May, 1908, the small detachment of marines, formerly maintained at Midway, has been withdrawn, so opportunities for further ornithological observations are limited. The islands, however, now constitute a government bird reserve, under the protection, I believe, of the Audubon Society, and it is to be hoped that they may long afford a harbor of refuge for the feathered wanderers yearly assembled from the Pacific wastes.

Washington, D. C.

## THE ONLY KNOWN BREEDING GROUND OF *CRECISCUS COTURNICULUS*

By A. M. INGERSOLL

WITH TWO PHOTOS BY THE AUTHOR

DURING the past four seasons, probably more, a small colony of California Black Rails have made their home on a limited area of the weed-covered tide lands of San Diego Bay. These breeding grounds are between National City and Chula Vista.

While searching for the undiscovered eggs of the Large-billed Sparrow, May 4, 1908, I took a few high steps to break my way thru a tangled mass of weeds and was surprised to see rise near my right knee, a California Black Rail. Examination of a dense growth of *Salicornia ambigua* brought to light a well concealed nest with one whole and three smashed eggs. An egg-smashed boot explained the unfortunate destruction of what would have proved a valuable addition to any oological collection. Incubation had commenced in each egg of this small set. This nest, as well as an empty one found in a similar location at a distance of a few hundred feet, was placed from ten to twelve inches above the mud. Having flushed birds directly from two nests, I imagined I should have no difficulty in securing a series of specimens if searched for diligently; time has shown the fallacy of that idea. Extensive field experience throughout this and several other states, warrants the writer in claiming that there is no bird whose nest is more difficult to find than an occupied nest of the species under consideration. Some of our small feathered denizens of the forest effectually conceal their homes in bewildering foliage of tall trees, but the nesting site can usually be located by a sharp-eyed and patient collector watching the birds during building operations.

The California Black Rails inhabit such dense vegetation, in which an abundance of nesting material is close at hand, that work could be carried on at a distance of six feet without one's being aware of the fact. Twenty-five special collecting trips to this colony by the undersigned, has resulted in only one bird and three sets of eggs; on each occasion two to six hours was spent in a most painstaking search for specimens. I have seen but ten birds. Five of them were flushed by a young man and his dog; one was captured by the same party seizing it with his hand as it endeavored to escape from the dog by running, and the others were flushed by myself. The dog would point the Rails and as they glided away beneath the weeds, would follow along sniffing rapidly. On catching sight of a little fugitive skulking from one shadowy retreat to another, he would bite at it, in one instance nabbing out most of the tail feathers. These biting acts seemed to be of a playful nature and reminded one of a cat playing with a captured mouse.

The salt weeds of this marsh are of an evergreen character and perennial, varying little from season to season. Old clumps of *Salicornia* become more or less matted down, forming an ideal retreat for this secretive little bird. A favorite nesting site is one formed by an old top-heavy weed falling over a growth of previous years in such a way as to leave a shelf-like space between the layers of stems and foliage. Away from the glaring sun on such a platform, is concealed a flimsy nest of fine dry weed stems. These weeds are too brittle to admit of weaving, and fall apart on being lifted from the sustaining platform. Nests that are built on the ground are sometimes as much as two inches thick in the center. Even the best constructed nests partially fall away on removal from the supporting weeds and earth. By sewing a round piece of paper to the bottom and making many stitches thru the balance of a nest, one can preserve about three-fourths of the original material. Of course the natural shape of a sewed specimen is changed, rendering it unsatisfactory to the careful student of nature. An excellent way of taking fragile nests of this character from the ground reasonably free of stones, is to remove a good sized piece of earth containing the nest and surrounding vegetation.

An example of my method is shown in one of the photographs accompanying this article. This nest was obtained in the following manner. The cover and bottom were removed from an eight-by-twelve-inch wooden candy box; strips of tin having one edge bent at a right-angle, were attached with small nails to each end and one side of the box, at proper distance to form a groove-like runway for the bottom to

slide in. A piece of tin was arranged with suitable holes to be secured on the front side of the box after it was filled, thereby supporting the bottom and locking it in place. This coverless box with bottom withdrawn, was placed over weeds and nest. By carefully cutting all roots and mud along the edge, the box was caused to settle until the top was about level with the surface. A hole was dug at front of box sufficiently large to permit the bottom board being placed in the groove. Roots and earth were gradually cut away as the bottom was shoved into place. This nest was situated in an exceptionally exposed place, and the eggs could be seen thru the low *Monanthochloe littoralis* that grew closely around the nest.

The eggs were warm to the touch when found. Judging from that fact, the setting bird had sneaked off on my approach. I surmised that an opportunity to



NEST OF THE CALIFORNIA BLACK RAIL AS IT APPEARS AFTER REMOVAL  
TO THE AUTHOR'S COLLECTION

photograph her at the nest would soon occur. Weeds were cleared away from the more open side that I might have an unobstructed view from my selected place of concealment. I decided after an unsuccessful and tiresome wait of one hours duration, to be contented with photos of the nest and eggs only. Wishing to shoot the parents of this first set of my own discovery, I endeavored to flush them by repeatedly returning as quietly as possible. The nest was also approacht by running up to it from different points of the compass. Notwithstanding most of the weeds within a distance of forty feet had been carefully kickt over, no birds up to this time were seen or heard. While packing the eggs a tuft of cotton was blown from my fingers; on making a quick grab, my hand was thrust into a clump of weeds causing one of the elusive birds to rise and fly feebly thirty or forty feet, then with

a sort of boomerang flight, hover and return to within sixteen feet (actual measurement) of the starting point. The bird flew so slow it seemed to have difficulty in keeping in the air; this appeared to be a flight of observation. The bird turned its head and scrutinized me with one of its red eyes while flying off. The legs were hanging down until the turning point was reached. They were then drawn up to the body, and dropt as she settled out of sight in a tangled mass of weeds.

The whitish eggs have a scarcely perceptible tinge of pink. They are finely speckled with bright reddish-brown and obscure lilac dots. The average measurement of the eggs is .95x.71 inches. The eggs exhibit great variations in size and shape but are rather uniformly marked. I believe the eggs of this species could not be mistaken for those of any other bird. The shells are of close-grained hard texture. They possess greater durability than any eggs of similar size that I know



NEST AND SET OF SIX EGGS OF THE CALIFORNIA BLACK RAIL, LOCATED NEAR  
SAN DIEGO, APRIL 8, 1909

of. One year's exposure to the elements is not enough to destroy the shell. In 1908, there were many eggs of the California Black Rail floated out of the nests by the high tides, probably by those of March 30 and 31. I examined upwards of thirty "floaters" during May of that year. They were then rotten and partially dried up. Fourteen "floaters" that were whole and perfectly dry were picked up during the present season; most of them were bleached entirely free of markings. A few that had lodged beneath the vegetation were still speckled. These dry eggs were at least ten months old; possibly the salt water acted as a preservative. Sixteen old nests were found in the immediate vicinity of "floaters." On several occasions, eggs were found lodged in weeds at a higher elevation than the nest from which they had floated. About one third of the nests were built on or within two

inches of the ground. I am informed of one nest being placed at a height of eighteen inches.

An accurate estimate of the number of birds in this colony is of course impossible; but judging from the number of floaters and old nests, I should say that in 1908, thirty pairs of birds resided there at that time. I am at present unable to describe any of the notes of the California Black Rail. All the birds observed were flying, and of course voiceless, like other members of the rail family, while on the wing. The stomach contents of the birds shot were indeterminable by me and I lack knowledge of their food habits.

To Mr. Park Harris, a former resident of San Diego, is due the credit of discovering the first eggs of the California Black Rail. Mr. Frank Stephens killed a California Black Rail on May 28, 1908, and recorded the fact in March-April, 1909, CONDOR. This is the earliest known summer record. All previous records are of birds taken out of breeding season. Most of these birds have been recorded from points five hundred miles north of National City.

Thru the courtesy of the State Board of Fish Commissioners, I was granted permission to take six specimens of the California Black Rail and also two nests and sets of eggs.

*San Diego, California.*

## NEST OF THE CALIFORNIA BI-COLORED BLACKBIRD

By JOSEPH MAILLIARD

WITH ONE PHOTO BY THE AUTHOR

PRESENTED herewith is a photograph of a nest of the California Bi-colored Blackbird (*Agelaius gubernator californicus* Nelson) taken at San Geronimo, Marin County, California, May 25, 1908. A few of these birds breed here every year in some meadows that are somewhat swampy in the spring and early summer. This particular nest was situated on the bank of a very small streamlet which meandered slowly thru the meadow, and was built in a bunch of sedge a few inches above the water. It was probably a second laying at such a late date as above. Whether some of these birds are late breeders and others early, or whether some of them raise a second brood in the season is problematical, and I have no opinion on the subject. The fact is that it is no unusual thing to see young birds flying about and yet find nests with fresh eggs in the same meadow in the last week of May.

Speaking of this species reminds me how difficult it is at times to maintain what seems to be the proper point of view pertaining to many matters. For instance I personally endeavored to assist in the recent—and successful—effort to prevent the state legislature from passing a bill removing the protection of the law from the meadowlark, and possibly other birds, on the plea that these birds were very destructive to certain crops. My point of view was that the meadowlark was a bird whose usefulness was great in comparison to the amount of damage of which he is known to be sometimes guilty, and that, with the blackbird mentioned above, he is the farmer's friend.

Now it happened just as our fight in the legislature was over that I had some fifty acres of oats planted in some moist bottom-land on our ranch in Stanislaus County, California. The oats came along beautifully—and so did the blackbirds.